

# Mineral Industry Surveys

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## SULFUR IN AUGUST 2003

During the month, production of recovered elemental sulfur was 720,000 metric tons, according to the U.S. Geological Survey (USGS). August production was 4% lower than July 2003, and virtually unchanged from August 2002. Shipments were 5% lower than those of July 2003. Producers' ending stocks for August 2003 were 199,000 tons.

Import and export data for August 2003 were not available at the time of publication and will be published in the Sulfur in September 2003 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for July 2003 were

estimated to be 261,000 tons; exports were 53,000 tons. Imports of sulfuric acid for July 2003 were 82,000 tons; exports were 28,000 tons.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information, data from other published sources, and personal communications with industry experts. Better strategies for estimating import data from Canada are being explored.

TABLE 1  
SALIENT SULFUR STATISTICS<sup>1</sup>

(Thousand metric tons)

Period	Production			Shipments, all sources
	Petroleum <sup>2</sup>	Natural gas	Total	
2002:				
January-December	6,750	1,760	8,500	8,490
January-August	4,470	1,140 <sup>r</sup>	5,610 <sup>r</sup>	5,630 <sup>r</sup>
August	591 <sup>r</sup>	125	716 <sup>r</sup>	727 <sup>r</sup>
September	543	132	675	659
October	545	164	708	699
November	579	155	733	747
December	611	168	779	755
2003:				
January	602 <sup>r</sup>	169	772	766 <sup>r</sup>
February	526	148	674	658
March	597	160	758	739
April	625	166	791	807
May	626	141	766	762
June	561	124	685	676
July <sup>r</sup>	598	152	750	756
August <sup>p</sup>	579	141	720	719
Total	4,710	1,200	5,920	5,880

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes a small quantity from coking operations.

TABLE 2  
U.S. IMPORTS OF SULFUR<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries <sup>2</sup>	
	Quantity <sup>c</sup>	Value <sup>3</sup>	Quantity	Value <sup>3</sup>	Quantity <sup>c</sup>	Value <sup>3</sup>
2002:						
January-December	1,950	9,450	430	11,300	2,560	26,800
January-July	1,050 <sup>r</sup>	3,360	252	5,370	1,370 <sup>r</sup>	11,300
July	180	405	44	1,140	242	1,960
August	180	1,860	30	944	223	3,240
September	180	1,050	45	1,420	242	3,010
October	180	1,240	29	944	247	3,290
November	180	843	29	942	232	2,230
December	180	1,100	45	1,640	252	3,720
2003:						
January	180	1,280	44	2,460	224	3,740
February	170	2,330	45	1,850	215	4,250
March	200	2,870	45	2,130	245	5,660
April	190	2,950	44	2,380	234	5,230
May	200	4,160	45	2,530	266	7,760
June	180	2,940	44	2,410	241	6,270
July	180	2,440	45	2,180	261	6,390
Total	1,300	19,000	267	15,900	1,690	39,300

<sup>c</sup>Estimated. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentalSul North America Sulphur Service.

TABLE 3  
U.S. IMPORTS OF SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries <sup>2</sup>		
	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>
2002:									
January-December	615	201	17,900	217	71	3,750	1,060	344	36,400
January-July	426 <sup>r</sup>	139 <sup>r</sup>	12,100	109	36	1,400	667	215	21,100
July	37	12	1,300	21	7	541	61	20	2,520
August	22	7	878	22	7	224	51	17	5,430
September	37	12	1,130	19	6	319	59	19	2,120
October	33	11	1,170	9	3	255	47	15	2,110
November	51	17	1,390	28	9	1,010	93	31	3,080
December	45	15	1,310	30	10	548	142	47	2,590
2003:									
January	38	13	1,330	29	9	511	67	22	1,900
February	30	10	1,080	25	8	836	57	19	2,360
March	42	14	1,740	19	6	279	63	21	2,480
April	44	14	1,680	--	--	--	54	18	2,200
May	34	11	1,320	29	10	638	75	25	2,710
June	26	8	963	40	13	1,350	84	27	2,770
July	23	8	1,020	19	6	318	82	27	1,950
Total	237	78	9,120	161	52	3,930	482	159	16,400

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF SULFUR AND SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value <sup>2</sup>	Quantity	Sulfur content	Value <sup>2</sup>
2002:					
January-December	555	40,000	148	49	12,800
January-July	286	20,600	83	27	6,620
July	2	189	12	4	887
August	49	1,340	15	5	1,230
September	70	6,920	16	5	1,840
October	76	3,450	11	4	1,040
November	60	2,400	9	3	839
December	14	5,300	14	5	1,190
2003:					
January	107	3,440	12	4	1,380
February	63	3,410	16	5	1,150
March	31	2,020	11	3	1,360
April	90	2,910	12	4	1,430
May	41	2,430	22	7	1,610
June	11	1,780	21	7	1,790
July	53	3,520	28	10	2,430
Total	396	19,500	122	40	11,100

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5  
U.S. CONSUMPTION OF SULFUR<sup>1</sup>

(Thousand metric tons)

Period	Domestic sources <sup>2</sup>	Imports <sup>e</sup>	Consumption
2002:			
January-December	7,930	2,560	10,500
January-July <sup>f</sup>	8,000	1,370	9,370
July	713	242	955
August	676	223	899
September	589	242	831
October	623	247	870
November	687	232	919
December	741	252	993
2003:			
January	661	224	885
February <sup>f</sup>	595	215	810
March	708	245	953
April	717	234	951
May <sup>f</sup>	721	266	987
June	665	241	906
July	703	261	964
Total	4,770	1,690	6,460

<sup>e</sup>Estimated. <sup>f</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Calculated as shipments minus exports.

TABLE 6  
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,  
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT<sup>1</sup>

(Thousand metric tons)

District and source	August 2003 <sup>p</sup>		July 2003		Total 2003 <sup>2</sup>		Year to date 2002 <sup>2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	19	17	20	22	146	146	164 <sup>r</sup>	166 <sup>r</sup>
Natural gas	2	2	2	2	17	17	19 <sup>r</sup>	19 <sup>r</sup>
Total	21	20	22	24	163	163	182 <sup>r</sup>	185 <sup>r</sup>
PAD 2:								
Petroleum and coke	79	78	71 <sup>r</sup>	70 <sup>r</sup>	606	597	559 <sup>r</sup>	560 <sup>r</sup>
Natural gas	4	4	11	10	36	36	33 <sup>r</sup>	32
Total	83	82	81 <sup>r</sup>	80	642	633	592 <sup>r</sup>	591 <sup>r</sup>
PAD 3: <sup>3</sup>								
Petroleum and coke	368	371	391 <sup>r</sup>	404 <sup>r</sup>	3,020	3,040	2,970 <sup>r</sup>	2,970 <sup>r</sup>
Natural gas	48	48	42 <sup>r</sup>	29 <sup>r</sup>	296	297	292 <sup>r</sup>	295 <sup>r</sup>
Total	416	420	433	434 <sup>r</sup>	3,320	3,330	3,260 <sup>r</sup>	3,270 <sup>r</sup>
PAD 4 and 5: <sup>4</sup>								
Petroleum and coke	112	109	116	122	937	912	779 <sup>r</sup>	778 <sup>r</sup>
Natural gas	88	89	98	95	853	842	795 <sup>r</sup>	807 <sup>r</sup>
California	83	79	87	92	736	718	623	620
Total	200	198	214	217	1,790	1,750	1,570 <sup>r</sup>	1,590 <sup>r</sup>
Grand total	720	719	750 <sup>r</sup>	756 <sup>r</sup>	5,920	5,880	5,610 <sup>r</sup>	5,630 <sup>r</sup>

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include revisions to prior months.

<sup>3</sup>Includes the U.S. Virgin Islands.

<sup>4</sup>Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7  
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS<sup>1</sup>

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2003			2002
	August	July	Year to date	total
Production	8.48 <sup>p</sup>	8.83 <sup>r</sup>	8.89	8.50
Shipments	8.47 <sup>p</sup>	8.90 <sup>r</sup>	8.84	8.49
Exports of sulfur	NA	0.62	0.68	0.56
Imports of sulfur:				
Canada	NA	2.12 <sup>e</sup>	2.24 <sup>e</sup>	1.95
Mexico	NA	0.53	0.46	0.43
Total <sup>2</sup>	NA	3.07 <sup>e</sup>	2.90 <sup>e</sup>	2.56
Export of H <sub>2</sub> SO <sub>4</sub>	NA	0.33	0.21	0.15
Import of H <sub>2</sub> SO <sub>4</sub> :				
Canada	NA	0.27	0.41	0.62
Europe	NA	0.22	0.28	0.22
Total <sup>2</sup>	NA	0.97	0.83	1.06
Consumption: <sup>3</sup>				
Domestic sources	NA	8.28	8.21	7.93
Imports	NA	3.07 <sup>e</sup>	2.90 <sup>e</sup>	2.56
Total	NA	11.40	11.10	10.50
Sulfur export values <sup>4</sup>	NA	\$66	\$49	\$72
Sulfur import values: <sup>4</sup>				
Canada	NA	\$14	\$15	\$5
Mexico	NA	\$48	\$60	\$26
Average	NA	\$24	\$23	\$10
H <sub>2</sub> SO <sub>4</sub> export values <sup>4</sup>	NA	\$87	\$91	\$86
H <sub>2</sub> SO <sub>4</sub> import values: <sup>4</sup>				
Canada	NA	\$44	\$38	\$29
Europe	NA	\$17	\$24	\$17
Average	NA	\$24	\$34	\$34

<sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes other countries not listed.

<sup>3</sup>Because August trade data were not available, August consumption was not determined.

<sup>4</sup>Average value per ton for most recent data available.